

# JOURNAL

OF THE

## ASIATIC SOCIETY OF BENGAL.



### Part II.—PHYSICAL SCIENCE.

No. I.—1881.

I.—*Report on a visit to the Nongyang Lake, on the Burmese Frontier, February 1879.*—By S. E. PEAL, ESQ.

[Received November 11th;—Read December 1st, 1880.]

(With Plates.)

Last year, I prepared a short note on the old Burmese route over Patkai, *viâ* Nongyang, viewed as the most feasible and direct route from India to China,\* and, having a month's leave in the cold season, I determined to proceed, if possible, to the pass over the Patkai leading to Upper Burmah, report on the same, take altitudes, &c., and explore the Nongyang Lake, in the valley of the same name beyond, on the Burmese side of the water-parting.

Permission to travel east and to cross the frontier was kindly given to me by the Chief Commissioner of Assam, in time to enable me to start from Jaipur, on the Dihing river, by the end of January 1879.

Hitherto, on this line of route considerable delay and inconvenience have always been caused to travellers from the want of a sufficient number of trustworthy load-carriers; parties have been detained eight and ten days while the necessary men were collected, and *en route* exorbitant demands have often been made. At times, as in the cases of Major Sladen's, and Mr. Cooper's parties it completely frustrates all attempts at progress. I therefore secured enough men whom I could rely on as porters before starting. The party consisted of seven picked Bengali coolies, an Assamese

\* Journal, A. S. B., Vol. XLVIII, Part II, 1879.

orderly and his mate in charge of my arms and instruments, &c., a cook used to camping, a Khampti boatman and his Duania mate, and, subsequently a Singphú guide,—as small a party as possible.

Among us all we could manage to speak English, Hindustani, Bengali, Sonthali, Assamese, Khampti or Shan, Singphú, and Nága.

The *lingua franca* of the party was Assamese, though as we went east Singphú and then Nága of the Namrup was chiefly spoken to outsiders.

Three Alpine tents, 7 ft. × 7 ft., weighing about 8 lb each, poles included, enabled us at any moment to camp comfortably and very quickly; at the same time, when rolled up they served as padded poles on which to tie baggage. Six small and extremely light boxes, measuring 10 in. × 12 in., × 18 in. and provided with locks and hinges, served to carry stores, presents and sundries securely, a great object being to avoid bulky and heavy or open packages. As it was desirable to explore the Namtsik river and Nongyang lake, a small dug-out (*Rob Roy*) was also taken slung on a bamboo between two men, with bedding stowed inside. A Snider carbine, a double-barrelled central-fire No. 12 shot-gun, a revolver, and a Deringer were the arms.

Our first day's march was east to Jaipur, at the junction of the Dhodur Ali with the Dihing river, formerly a place of considerable importance, and likely to become so again. Large steamers can reach it from the Brahmaputra in the rains, and small ones during about eight months of the year. Coal, petroleum, and timber are also to be found in large quantities not far off. It is also the point at which a route from Burmah would practically emerge. Government has wisely reserved large tracts of forest up-stream, and already some teak has been planted.

The first care on arrival was to secure a good boat for the heavy stores to go by water up the Dihing, and, this done, an application in person to old Turkong, of the Phakial or Khampti village, secured me a good boatman named Múng, a Khampti who has piloted many up and down this river, who knows all the people, villages, and folk-lore of these parts, and is withal intelligent and communicative. By noon all supplies of rice, tobacco, salt, opium, cloths, sugar, &c., were stowed, and six of the men started lightly laden, by land, the rest of us in the large canoe.

Soon after leaving the station of Jaipur we passed up some very beautiful reaches of the river, where the water, deep and still, slowly winds among wooded hills (the gorge in fact), with huge bedded sandstone rocks along the flanks covered by ferns, bamboos, wild plantains, canes, and other products of a sub-tropical jungle. Towering above all, here and there, rose the great bare branches of dead rubber-trees, once so plentiful and now so rare, a silent protest against reckless tapping.

Some of the reaches are nearly a mile long, water 30 and 40 feet deep, though here and there becoming more shallow and rapid.

At one spot a picturesque pile of rocks, capped by forest trees, divides the stream equally, and is called "Hita Tatol, from *Sita's tat-hal*, the weaving-hall in which Sita was found by Ram.

Here and there we passed camps of people who were cutting bamboos to raft down to Jaipur for building, also native boats of the usual small dug-out pattern. Having the *Rob Roy*, I was enabled to paddle ahead or stay behind sketching, and at one place made a small careful memo. of a huge dead rubber-tree that had fallen over into the river,—the trunk and branches resembled a huge dragon.

As rain appeared to be coming on, we camped early at a large high sand-bank, near a rapid called Digoli Gagori. In a very short time we were all comfortably housed, fires blazing under the cooking-pots, and a pile of dry logs got in ready for the night-fire. Our three tents and the boatmen's bivouac were generally so placed as to form a cross, the openings facing a log-fire in the centre, that was at once light and heat for all. The assembling round this camp-fire every evening after dinner was generally looked forward to all day. Here we met strangers, heard the local news or stories, the inexhaustible Múng generally giving us the traditions, often illustrated by very creditable maps in the sand. Villagers, if near, always joined our circle, enabling me to collect a large amount of information, or explain the objects of my trip, which is an item of some moment in cases of this nature.

The monotonous rush of the rapid at last was the only sound heard. The night turned out cold and foggy. Once the echoing bark of the little hog-deer roused me, and I put the logs together that had burnt apart. In the early morning the dew-fall was sufficiently heavy to be audible several hundred yards off, the moisture condensed on the higher foliage falling like a steady slow shower on the dried leaves on the ground. Ere starting at 9 A. M. I made all the people cook and eat their breakfasts. At 10 A. M. we passed the mouth of the Namsang river on our right (but the left bank of the river). It rises among the hills of the Namsang Nágas, and near its mouth is a small tea-garden.

More or less scattered up and down the river Dihing, there are names and traditions that unmistakably indicate this as the old Ahom route to and from Burma,—a highway of the past. The earlier portions of the "History of the Kings of Assam," detailing the Ahom invasions, clearly enough point to the Dihing river as the line of entry, and Nongyang as the part of the Patkai where they crossed, the name Patkai having originated there.

About 11 A. M. we came to *Noralota*, a tree-covered ridge jutting into the Dihing river, which derives its name from *Nora-ulota*, *i. e.*, Nora's returned. In November 1228 A. D. Sukapha Rájá coming to Assam from Munkong with 1,080 men, 2 elephants and 300 ponies, brought also "Chum Deo" (unknown to the owner) Noisanpha Nora Roja of Munkong, Noisanpha

missing Chum Deo, sent men after him for its recovery who followed to the Dihing whence they returned, this spot being now called “Nora-ulota,” a Nora’s returned.

The following is a copy of the passage in the History of the Kings of Assam.

সংক্রান্ত ১১৫০ স্কর ১৬ আঘোন ইংরেজি ১২২৮ সনে চুকাফা রজা দেও আহোতে লগত অনা মানুহ ১০৮০, দঁতাল হাতি ১, মাখুন্দি হাতি ১, ঘোড়া ৩০০, খাও মুং ক্লিং লুন্ মাং রাইবুরা গোহাই ও খাওমুং কানঙ্গন বর গোহাই, এই খনি সহিতে চোম দেওক লৈ আহিল। এনেতে দৈবাত মুংকং দেসর নইচানুফা নরা রজাই চোম দেওক বিচারি নেপাই, চুকাফাই নিলে জেন ভাবি, চুকাফা রজাক ধরিবলে মানুহ পাঠালে। সেই মানুহে খেদি আহি চুকাফা রজার লগ নে পাই; জি ঠাইরে পরা উলটি গল, সেইখনি ঠাইকে নরা ও লটা বোলে।

As we went up the river, the hills on either flank gradually subsided, and gave place to level land, covered with mixed forest, the waterway became shallow and wider, several Duania villages were passed, built more or less after the Singphú pattern, *i. e.*, long sheds of bamboo, the floor raised on small posts. These people are the descendants of Assamese carried off by Singphús some 80 or 100 years ago, and reduced to slavery. Many escaped from Hukong during and after the Burmese wars, and are now located about the Dihing river, speaking both Assamese and Singphú,—dressing like the former, but having the gross superstitions of the latter.

During the day the Namsang Purbot, or hill, was a conspicuous feature in the landscape, generally forming a fine background to the views on the river. Its outline is good, and the colour at times dark green to blue, or even purple, is seen reflected beautifully in the long still reaches of water, with, at times, a wooded island in mid-stream, and a foreground of snags piled in picturesque confusion.

We were in no great hurry, so camped at the *Juglo* Duania village, the ten or twelve houses of which were placed end on, at a few yards back from the edge of the bank of yellow clay 30 feet high.

Selecting a clean stretch of sand by the water, under the cliff, we soon pitched our tents, and were visited by the headman, who brought the usual little present of fowls, eggs, and some rice. The *Rob Roy* caused some amusement, and one of the young men paddled it about very creditably, considering it was rather crank, and the stream strong. As usual, great interest was taken in my journey, and routes discussed after dinner. My kerosine wall-lamp, revolver, and guns were duly wondered at, and a tiger happening to announce himself by a loud whistle on the opposite bank, I was enabled to gratify them by a shot from the Snider to frighten it away, the echo rolling through the forest on each side for a long way, and sounding unusually loud and prolonged in the still night. At 9 P. M., the thermometer stood at 65°, and we had a fine night.

In the morning there was a heavy fog, with the usual light west-by-south-west wind, threatening rain; temperature of the Dihing water 68°



and air 63°. After all had cooked and eaten we started up-stream between two islands, the river bed becoming wider up to 400 yards. Extensive shallows over sandy bottom often rendered it difficult to keep to the passage, a line of deeper water frequently ending in a wide shallow that compelled all hands to get out, and by sheer force push and drag the canoe to the nearest channel.

Near Poai Múk there were large islands of dry sand in mid-stream, which are evidently well covered in the rains, thus indicating the large body of water that must then be needed to fill the river bed.

It was about here that some forty years ago a small cannon fell into the river during an expedition, and which is now commonly reported to go off with a loud bang under water once every three years.

About 11 A. M. we reached Mákúm, a village on the right bank, now celebrated for its fort, situated on a clay bluff overhanging the river. A native officer and 20 police are in charge. The plan of the building is a Maltese cross, walls 4 feet thick and 50 high, loopholed in three stories. It was erected by the late General David Reid, R. A., who had long experience on this frontier, and to whom we are indebted for most of the little permanent work of this kind in Eastern Assam. The fort is impregnable to savages like the Nágas. While at Mákúm I saw old Gubor Jemadar, formerly in charge here, but who is now pensioned. He has great influence among the hill tribes about, and by timely tact has on several occasions saved us from political complications with the Nágas.

After hearing the object of my journey, he quite agreed as to its feasibility and safety, giving me also some valuable information regarding the tract I was about to visit, though he had himself never seen it.

At Mákúm the Dihing is 350 yards wide, and at this season runs shallow over shingle. Not far off there are valuable beds of coal up to 20 and even 30 feet thick; there are also petroleum springs. The river here takes a huge bend, the concavity facing the Nága Hills opposite to the south. On a fine day the view from the fort, across the river and low forest and lower ranges of hills, is very fine, the higher ranges bordering the basin of the Tirap running behind, as at Rangatu, 3,500 feet. Beyond these again lie the hills near Yungbhi and Yugli, and the Patkai in the extreme distance at 5,000 and 6,500 feet, rising here and there to 8,000.

Having made the necessary arrangements as to parcels and letters, we started next morning at 11 A. M., reaching Insa, or Bor Phakial, in the afternoon, and camping on the huge sand below the village. The inhabitants are mostly Khamptis, or Shans, a race from the south-east, who are scattered more or less about near here, their head-quarters being at Manchi or Bor Khampti, on the Mli Kha branch of the Upper Irawadi. They speak and write Shan, using the Burmese character, and are Buddhists.

They dress in white or dark blue cotton jackets, have, like the Singphús, a sort of kilt of plaid pattern, dark blue, green, and yellow, the prevailing mixture, and round the shoulders wear a large thin *chudar*, or wrap, 10 feet by 3 feet, of some bright red and white check pattern, and a white *pugri*, generally worn in a conical form, covers the characteristic knob of hair on the tops of their heads; their cloths are home-made, like their rude pottery, the manufacture of each can be seen going on daily here and there. Amber ear ornaments are common to both sexes, and the men generally have the so called Khampti *dáo* worn in or on a sheath, slung under the left arm by a cane-loop passing over the right shoulder.

The women now wear clothes more or less like the Assamese, though now and then a Shan costume of dark blue can be seen, skirt and jacket, the latter having a close row of silver buttons, the head covered by a dark blue *pugri*, laid on in close coils,—a remarkable and pretty *tout ensemble*.

In colour these Khamptis are paler than the Assamese, though at times with a yellowish tinge, the hair and eyes black, and faces clean; the moustache, if worn at all, is generally a failure; high cheek-bones, small eyes, and wide flat noses are the rule, giving the well-known Mongolian cast of features. Both sexes are rather short and stout in build.

After dinner, the elders paid me a visit, and, having been there some ten years before, recognized and welcomed me, and made many enquiries after "Jenkins Sahab," whom they all remembered. As usual, they were greatly taken with the guns and revolver, the fitting and finish being well appreciated by men who are more or less naturally workers in metal.

The ability to raise and lower rapidly the light from the strong kerosine wall-lamp struck them all as something quite new, and they were equally astonished to learn that the water-like oil was simply their dark petroleum purified.

One and all showed considerable interest in my trip, though, as it was through the Shingphú country, no one would join me. I found that Khamptis do not often travel east or south in small parties. At the same time, though none of them had, as far as I could learn, been to Nongyang, some of the old men gave me information regarding those parts that was more correct than that which I obtained from those who should have known far better. This I partly attribute to most Shans being able to read and write, and their being possessed of manuscripts handed down for many generations. As a *finale* to a pleasant evening, I amused the big and little boys by burning a piece of magnesium tape.

Next morning, while the men were cooking, I was shown all over the village, and the *Chang*, or sacred house, containing their books, pictures, images, offerings, gongs, &c., and into which I believe no females are allowed. It is a building raised some 7 feet on wooden posts, measures

some 35 feet by 50 feet, and with six of the central posts continued up to carry a second central raised roof; the caps of these six columns were carved, and under this raised portion was the shrine with some different sized images of Buddha. At one end hung a large cotton *pardha*, with horizontal rows of very well painted figures, about 8 inches high, illustrating their idea of the earth and its inhabitants; near the lower edge there was one group inverted and said to represent the people who lived below us, with their feet upwards! The whole picture was in fair preservation, but from all I could learn, not very old, and executed by a Shan from Burmah, who travelled on to Bor Khampti.

The houses of the people in the village were ranged more or less in lines, and, though long, were parallel, leaving room enough for a road in between each. They were invariably raised platforms with the Jengo roof coming well down over the sides, an arched and rounded end in front, beyond which the platform always projected, so as to enable the people to put things out in the sun and yet be safe from the inevitable pig; it also serves as a sort of semi-public reception place. It seems also a feature of all Nága houses, though not seen among Singphús.

These houses run from 20 feet wide to 100 feet long, contain one family, and, unless large, are often built or re-built in a remarkably short time. While at Bor Phakial the *Gáonbúrú's* house was being re-built, and he told me that it would be done in two days by the able-bodied men and lads of the entire community, who during the erection are fed at the owner's expense,—a custom which prevails more or less all over Eastern Bengal, Assam, and the hills adjacent.

Passing up the Dihing now again after an absence of several years, I was struck with several changes. The *Bapu*, or Khampti yellow-robed priest of Bor Phakial used to teach all the lads to read and write. He had now gone to Burmah, might not return, and the boys could not all read. Again, Nágas are now seen in numbers, and have boats, villages, and lands on the Dihing, where there were formerly none. These people and the Duantias, indeed, seem to be getting more mixed up as time goes on. Kaiyas, or Marwari merchants, or their agents, are now seen at every place of importance, they exchange opium, brass-ware, and cloths for ivory, rubber, and such like. Indirectly, they have been the cause of the extermination of the rubber-trees over large tracts; the ready sale for ivory has also added to the natural tendency among the Nágas to hunt and kill elephants for the sake of their flesh. Not long ago eight elephants that crossed the Patkai were so carefully watched and hunted that only one escaped.

There is now a great want of blacksmiths up the Dihing and, dáos cost double what they did in 1870, which is generally attributed to Govern-



ment purchasing too indiscriminately. At Bor Phakial, ere I left, some twelve Singphús from Hukong came in *en route* home from Assam, having sold all their amber. Happening to ask if they knew certain villages, Mbon and Nmphin, I found they were from the first one I named, and I at once had pressing invitations to go and see them ere my return, they offering to guarantee my safety. The advantages of our rule to Assam was here, as on some other occasions, dilated upon; security to life and property here contrasting favourably with the insecurity there, where there was no paramount authority.

After breakfast the whole village lined the bank to see me off in the *Rob Roy*, which seemed to amuse old and young, boys and girls alike.

Passing Bhaigiro, we were joined by a Singphú and his wife and family in a small dug-out, the woman and an infant in the centre under a little bit of curved roof, the man paddling as he steered, while a boy of 10, and a girl of 12 poled at the bows, keeping pace with us easily and crossing shallows we dared not venture near. By 4 o'clock we reached the Tirapmúk, whereat is situated the village and residence of Kherim Gam, the young chief of the nearest Singphús, whom I knew well, but who was now up at the Namsik elephant stockade.

The Tirap river falls in on the left bank of the Dihing, after a long course, draining a huge valley along the northern flank of the Patkai, which is densely populated by the Nágas.

A route from this point enters the hills, passing Wadoi, Hongtam, Rangnem, and Yungbhi, crossing the Patkai at 5,000 feet elevation, and afterwards other ridges of similar height, including the Gedak Búm, to emerge at Namyung village in Upper Hukong. It is a long and tedious route, crossing great elevations, and was taken by Griffiths in 1837, there being no carriage *viâ* Nongyang. From the Tirap to Namyang takes twelve days generally. In the morning I visited the Gam's houses, a collection of dilapidated sheds, having raised floors, beneath which the pigs luxuriated in unlimited mud. The Gam's mother complained to me, through an interpreter, that the *Nats*, or evil spirits, tormented her with pains, so I gave her a small present of opium and departed.

As a race, the Singphús are more rude and headstrong than the Khampis, and would make remarkably good soldiers, like most of these hillmen; the pity is they are not utilized.

Kherim Gam's brother paid me a visit ere I left in the morning, and said he knew the Gam would be sorry that he had missed me.

*En route* we had some fine views of the hills to the south and of snowy peaks to the eastward, the river bed was still very wide, shallow, and full of snags above Tirap; how some of the little canoes that shot past downstream filled with Singphús escaped a capsizing was a wonder.



At Ntem we came to the first rapid since leaving Namsang, and a little above it camped on a wide sand, whence a Singphú, a Duania, and a Nága village were visible at once, all quite small and unfortified, showing the security of these parts. Here, again, a tiger came out at night, and prowled about a good deal, as we saw by his tracks in the morning.

By 9 A. M. we were off, after breakfast and a visit to the Duania village, and landed at Saiko at noon, finding the village of six houses nearly deserted. I here saw some very pretty silk ornaments being woven for a bag, but the price, (Rs. 10 for 2 square feet) was more than I cared to pay; the loom was a rude little contrivance 2 ft. by 2 ft. by 2 ft., made of some sticks and bamboos.

I here also measured a peculiar kind of bamboo, 22 inches in girth, with close joints, and from 70 to 80 feet high. I hear they are not known wild, and the internodes are made into mugs, jugs, boxes, and such like. The stem is of a bluish white colour.

Later in the day we reached the Kherim Páni, or old bed of the Dihing, now more or less silted up. There are two other passages through which the Dihing comes in the rains, *i. e.*, the Mganto and Kasán; from this upwards, the river is called the Namrup.

Selecting a dry sandbank, where there was plenty of fuel, we pitched our camp and made all extra taut and snug, expecting a storm at night, which duly visited us; the thin waterproof sheets, however kept everything dry, notwithstanding a strong gust or two. At dawn we were all astir. While some of the people cooked, I went with the others to Bisa, about a mile up the Dherim Páni, a place celebrated as the headquarters of the Singphús of our side of the Patkai, and the residence of the late head Gam, Banká. There was little to distinguish it from other Singphú villages,—the same long shed-like houses, traces everywhere about of the depth of the mud in the rains, pigs and children. Very few men were to be found, as most of them were out hunting for rubber.

In exchange for some opium, I secured 300lb of clean rice, a few fowls and eggs, also a few chillies. Chautong, son of the late Chief, a smart lad of 10 or 11, was pointed out to me, and Chauing, his nephew, a lad of 17 or 18, was a very fair sample of a Singphú, tall, quiet, and obliging. His father, Latua, about 16 years ago having determined to raid some villages in Hukong, on the Upper Dinoi, departed with his men, saying that, if successful, he would return. As he was not successful, he has not done so to the present time, though he has been frequently asked to come back.

On the way to the boat and camp we found the funeral pyre and monument of the late Chief, a small square enclosure, railed 6 ft. by 6 ft., with pillars at the corners, and long bamboos with strips of cloth dependent, a highly ornamental post in the centre with a kind of carved gilt cap or

mitre, split bamboos also at the corners to hold offerings, and a long rich red silk Burmese cloth hung on a bamboo some way off, strips of red and white cloth hung all about on sticks, and waved with a curious effect, the jungle forming a background.

On reaching the canoe I gave Chaung a dozen rounds of Snider ammunition to shoot a tiger which was killing their cattle, and started on up the Namrup, finding that the rapids at once became more frequent and difficult. At places we had to clear out a track or passage by rolling the boulders aside ere we could drag the canoe up, a work that we became pretty expert at, and these same passages were again very useful on our return.

At the Singphú village of Sambiang, or Gogo, we landed and secured a guide named Lah, who was known to Múng, our boatman, and was reputed to have influence among the Tkak Nágas. He owned a gun that he desired to fire off "for luck" ere starting, so sitting on shingle he pulled the trigger several times in vain, as the hammer stuck at half-cock. I advised a hard jerk and turned to go to the canoe. Hearing a fearful bang, I returned and saw the guide's feet and gun pointing skywards through the smoke. He assured me, though in a nervous way, that it was all right, and usually did that when he put in six fingers of powder and two balls!

From hence to Tkak we had three other Singphús travelling with us, and at starting most of us walked over the shingle, gravel, and sand near the river to lighten the boat. I noticed these three men at one place busy catching some insects, and found that they were bugs an inch long which lay under the stones, and which had an unmistakable odour. On enquiry, one of them said they were going to eat them as they were a capital substitute for chillies! and asked me to give them a fair trial!

By 4 o'clock we found a good camping-ground near the Nmbai Muk, on the wide dry sands of an "*era hute*," open on each side and with high forest behind and in front. Fires were soon blazing, every one felt comfortable, and dinner was over by sunset. Gradually the moon rose over the tree-tops and lit up the entire scene. While I enjoyed a cigar, the Bengalis did justice to their *tamakú*, Múng and the Singphús lit up their little brass bowl pipes, and we enjoyed the long evening. There seemed few birds or beasts about, the ripple of the rapid not far off yielded the only sound. Then we discussed Nongyang and the routes: none except Lah had been there. Queer stories abounded, such as that the island in the lake floated about and shifted its position with a change of wind. I heard also that the valley had once been densely peopled with Khamongs or Kamjangs, Aitonias, and Turong Turai, who had all left in consequence of raids by the Singphús.

Some of these same Aitonias being now near Golághát, and the Kamjangs gone to the east, the valley is now-a-days utterly destitute of

people. Múng drew some creditable maps on the sand, and seemed to thoroughly understand the relative positions of the various countries, routes, passes, rivers, and mountains, with their inhabitants. From all he could learn, the Singphú track *viá* Sitkha was difficult mainly on account of the want of supplies *en route*, and at best not so easy as that over Patkai. All agreed that the line over Dophá Búm to Manchi from the Upper Dihing was reported both long and difficult, and people very seldom traversed it. After a while, the moon sank, leaving the line of forest opposite strongly marked against the sky. One by one we went to sleep, and all was quiet.

About 6 A. M. we were all astir, boxes packed, camp-chair folded and stowed, tents rolled up, and for once we pushed on before breakfast. A cup of hot coffee and milk with a biscuit was my *chota hazri*. This same prepared coffee and milk is a most useful item, and can be made almost in a moment and milk cannot be procured *en route*. Here and there we occasionally saw some fine mahsir, 20- and 30-pounders, and I regretted not having tackle.

Fine views of the snow-capped hills to the east were seen ere the mists rose, and Dophá Búm looked beautiful in the early light, the shadows sharp and blue, while the snow was of that peculiar creamy white, so difficult to get out of any colour-box, the sky colour behind all being a clean pale grey. A good telescope, to one travelling eastward is a necessity; without it he misses half the "sights" of these parts.

About 11 A. M. we passed the Mganto Múk, one of the three old channels of the Dihing, and saw there some huts of elephant-catchers and rubber-cutters. After passing it, we again found the Namrup perceptibly smaller, several long shallows so bad indeed that the men had all to carry their loads ahead and return to drag the canoe over. My Rob Roy, drawing only two inches of water, of course experienced no such difficulty. Later in the day we passed the entrance to the Nmbai, or Lumbai as some call it, for at times they seem careless which it is. This is not really a river, but a loop from the Namrup which leaves it here and rejoins the main stream above Kherim Páni.

Still later we passed the third channel of the Dihing called the Kasán on the same (right) bank, reaching Namtsik before sunset, and camping on a sand below the huts of the elephant-catchers employed by Mr. Vanquelin. He was encamped close by, and paid me a visit, giving some information in reference to routes, and kindly lent me a smaller boat to assist me in getting up the river Namtsik. I was here induced to take the Namtsik and Tkak route *viá* Sonkap, instead of the one straight on *viá* the Namrup, or, as it is here called, Nambúk, the route by which Mr. H. L. Jenkins and my brother travelled in 1869.

Next morning we re-arranged the baggage, leaving some needless items till our return, and taking only loads which the men could easily carry in the hills. At first the Namtsik was a succession of deep clear pools, among wooded hills, with rapids at every bend. The timber was remarkably fine, the best I had ever seen. Huge *nahars* (*Mesua ferra*), *mekahi* and *gondserai*, rising here and there to immense heights, certainly 100 feet to the first branch, being 10 and 12 feet, or even 16, in circumference at the base. Large tree-ferns and wild plantains rose above on either side, and creepers hung in profusion everywhere, long lines often hanging down into the water, as a rule everything was beautifully reflected in the still clear water. Eventually we reached a rapid towards 4 o'clock, where an immense rubber-tree overhung a deep pool, but with a ledge of shingle intervening, on which there were remains of some huts made by the ubiquitous rubber-cutters, these we speedily demolished, and after levelling the ground, pitched our tents in a line. Somehow this evening, in consequence of the gloom, the weird look of the whole place, queer hootings, and a slight drizzle, the party all seemed inclined to the superstitious, and I had to compel them to cook and eat. After they had done so, I issued a small "tot" of grog to all who would take it, which served to rouse them up. During the night it rained, but, as before, our waterproofs kept us dry.

About 9 A. M. next morning, after all had eaten, we started on, passed some long rapids and shallows, where I had even to get out and tow my *Rob Roy*. At one place I was ahead looking for deer, and enjoying the beauties of the gorge. Some of the tree-ferns I estimated at 30 feet high. Dead rubber-trees were also seen here and there, the dead arms standing out conspicuously against the clear blue sky overhead or fallen over bodily into the river bed.

Suddenly, on turning a corner, I came on some Nága men and women who were out for jhúming, they were all nearly naked, the men wearing a narrow strip of cloth and the women a series of fine cane strips, so girdled as to look like a miniature crinoline that hung down about a foot below the waist, and to which a narrow strip of dirty cloth was fastened horizontally. The women also wore nose-studs (which covered the nostrils) made of pewter, and the size of four- or eight-anna pieces. A profusion of glass beads, as usual, made up for the scantiness of the costume in other ways, and brass wire rings were worn through the upper part of the ear, from which the red and green skins of a small bird depended. Brass wire bracelets, a bead coronet, large red cane loops in the hair, two bone skewers, and shin-rings seemed to complete the outfit. Two lads of 16 or 17 were quite nude.

None of them could speak a word of Assamese, and seeing me alone they were considerably astonished, especially as but one or two of them



had ever seen a white person before (when the surveyors were there). Though taken aback, they evinced no distrust, and by signs I called the lads to haul my canoe up the top rapid; soon after my followers came up, and my guide could talk to the lads. They were from a village up on the northern flank of the Patkai. The dress and general appearance of these Nágas was almost precisely the same as of those found up the Tirap valley, twenty miles west.

As we ascended the Nantsik it maintained its picturesque look, a succession of deep still pools, often overhung by rock and trees, shallows and rapids here and there blocked by fallen trees, at times long ledges of dark slippery rock with narrow channels, through which the river rushed, making it difficult to get the canoes over. In places the gorge was almost in twilight, in consequence of the masses of foliage all around and above, where it was not always possible to see much sky. The large whitish trunks of immense trees (*hulong* and *mekai* more especially) here and there rose very conspicuously against the darker background; there were also many large trees that seemed new to us. *Húlúks*, or *Hylobates*, the black gibbon, were very common, and made the forest echo with their halloosings. The great hornbill, too, was seen in flocks of twenty and thirty at a time, and could easily be heard, as their wings seemed to rasp the air, from a quarter to half a mile off. Otters were common, and made off with a great fuss; no doubt, from the signs we saw, they have a nice time of it.

At one place we came to a huge *mekai* stem hanging or projecting out in the air from the jungle on the left hand; after passing under I got out of the canoe and scrambled up on it, the stem was fully four feet thick, and projected about thirty. On walking back on it, and dividing the jungle with my knife, I found it was poised on its centre on an island, and that an equally large portion overhung the other branch of the stream,—it had evidently been carried along and lodged there during some big flood.

Towards the afternoon we began to get glimpses of dark green and blue forest-covered hills not far off to the south, the group of Sonkap Búm on which there were several Nága villages. The highest peak of the ridge is about 3,000 feet, and as it stands well out north of the main range of Patkai, it affords some magnificent views.

At 5 P. M. we arrived at the mouth of a small dark gully, which the guide said was the route to the Tkak Nága villages. Here we camped, and in the early morning arranged all the loads carefully. Three men were then left in charge of the boats, while the rest of us went up to the village.

For some way the path led up the rough and slippery stream bed, subsequently over a level spur, through clearings, where we had to scran-

ble from log to log and walk along large and small tree-stems at all angles of inclination, the ground being as a rule completely hidden under a thick mass of creepers, foliage, and smaller lopped branches, all drying so as to be ready for being set fire to about March.

How the leading men kept the *path* under such circumstances was wonderful, for no trace of a track of any sort was visible. In some forest beyond we met a Tkak Nága and his young wife, who were rather taken aback on seeing our party. A palaver ensued as to which of the two villages we should go to, and during it we suddenly saw a long string of Nágas advance in single file, and, the path being very narrow and in dense undergrowth, they had to pass us closely. As they went by many spoke to our guide, and some stopped and gave him some tobacco, asking who we were and where we were going, many had flint guns, and all carried the Khampti *dáo*. Generally, they passed me hurriedly and seemed more comfortable when they had got by, then turned round, and stared. Those who had loads carried them in a conical basket (the Nága *húra*) by a strap over the forehead; more than half had spears, and all wore the little cane crinoline and small strip of cloth passed between the legs which forces the testes into the abdomen, a usual custom among these Nágas (East). They were not tattooed, and hence looked much paler in the face than do the tribes who live further west. I found they had all been summoned by a Singphú Chief to assist in building him a new house.

After passing through another *Jhúm* we reached Tkak, a village consisting of ten houses on a spur facing the Nambong valley, where the guide made arrangements for us to stay in the outer end of the headman's house. After an hour's rest, the carriers went back to the boats for the other things, and the whole party came up. While they were away I had breakfast. It was no easy matter communicating with these folks, as the only language they knew besides their own was a little Singphú. Lah, the guide, and Múng, the boatman, however, were generally somewhere at hand to interpret.

The village was evidently not more than five or six years old, as I saw the stumps of the forest trees everywhere about, and often the stems as large logs. The houses were not arranged on any plan, but just built where the owner had a fancy, on a fragment of level eked out by posts, not over 30 or 40 yards apart, no two houses consequently were on the same level or faced the same way. They were more or less on the same pattern as are all the houses of the hill tribes in or about Assam except those of the Gáros and Khásias, *i e.*, a long bamboo shed, with floor raised on posts some 4 or 5 feet.

It is singular how this custom survives even among people who have left the hills and been resident in the plains for some 500 or 600 years, as

for example the Deodhaings, who came in as *Ahoms* in 1228, and are now seen occupying a few scattered villages not far from the Disang river, in the Sibságar district. The Aitonias and the Miris also afford other examples. The custom in all cases seems due to the necessity of keeping the floor out of the reach of pigs and goats.

It may be called the "Pile platform" system, and to some extent marks a race distinction between Aryans and non-Aryans. It is probably the same system which occurs throughout the Malay peninsula, and has latterly been traced in the Swiss lake-dwellings, and present Swiss *châlet*.

Among the *Nágas*, where houses have been built on a declivity, I have seen one end of the house only a foot or so raised from the ground, while the other end, supported on bamboos 30 feet long, overhung a fearful gully,—the little platform at the extremity, on which the people sit out and sun themselves and their children, having no rail or protection of any kind.

The people seemed very quiet and civil, but were more or less curious to see our things. While they were examining them we heard a loud wail raised in a house not far off, that made all mute, soon after another, and they all went there in a hurry, gradually joining in the chorus. It turned out most unluckily that the old *headman*, who had been very ill for some time, took it into his head to die *just* after our arrival. It made my guide and Múng and the three other *Singphús* look serious for a while. Guns began to go off, too close to sound pleasant, and were pointed about promiscuously; I began to think matters were getting serious, as the son, a grown man, rushed about demented, yelling and slashing and cutting everything within reach of his *dáo*,—floor, walls, baskets, all got a fair share of his fury, an unlucky cock that ran past lost his head, and dogs kept aloof.

Guessing that a good deal of the rumpus was "a form of sorrow" in these parts, I kept our party as unobtrusive as possible, and in about half an hour the bereaved son came to me, quiet, but crying, and asked for some caps, as they had a nipple-gun which they desired to use in the row. On giving him a few, I remarked that had I known the old gentleman was so nearly dead, I should have gone to the upper village, but he explained that his death had been daily expected for some time, and I must not be put out at the noise and fuss, which was their custom. He turned out afterwards to be a very decent and intelligent fellow, and rendered me good assistance.

The row still going on, I took my note-book and strolled out by the path towards Patkai. A fine view which I had of the Namtsik valley shewed it to be wide, and filled with low rolling hills and undulating land, and not nearly so steep or high as I had anticipated from the shading on the Government maps, which extends as far as this village.

Patkai here at least presented a high and tolerably level ridge to the south at 3,000 feet up to 6,939 feet at the Maium peak, all seemed deep blue, instead of green, forest-covered to the top, and at some five or ten miles off, the Nambong river below, dividing it from Sonkap, and receiving the drainage from both sides, to flow east and join the Namrup. The six or seven large spurs from Patkai are all included in the prospect.

Early in the evening the men arrived with the remainder of the loads, and I pitched the tent in the usual form on a clear little flat just at the outer edge of the village. After dinner we had a large audience as usual of Nágas, men and women, the latter being in the outer circle. The object of my visit (*i. e.* to see Nongyang lake) was explained, and routes in various directions discussed. There was but one to the lake from hence, *i. e.*, *viá* the Nambong to Núnki, a stream between two of the large spurs, then across Patkai by the regular and only pass. They made many enquiries regarding "rubber," and I was able to show it to them in various forms, as waterproof sheet, coat, air-pillow, elastic rings, &c. It was little wonder that they were interested, inasmuch as till about a year ago any enterprising Nága could earn 2 to 4 rupees a day by its collection, and both the inhabited and uninhabited tracts on each side of Patkai had been explored.

Here, as before, remarks were freely made in favour of our Ráj, which was favourably contrasted with the state of insecurity known to exist in Upper Burma, and here also before our arrival in Assam. They spoke of the visit of the Survey party some years before, to which they made no objection. A good many of them had been as far as Bisa or Mákúm and Tírap, but few to Jaipur, and very few indeed to Dibrugarh. They seem to work pretty hard, the men and boys in clearing the forest (*jhúming*) and house building, while the women plant and weed the crops, reap, look after the family, cook, &c., though the carrying of water in the bamboo tubes, often for considerable distances from some gully below, is no joke. They also bring in immense loads of firewood from the clearings, but as a rule the women and girls are remarkably sturdy, and think very little of carrying 150 or 200 pounds on their shoulders and backs, slung by bands across the forehead.

Like most Nágas, they have no special agricultural implements, but use the ever handy *dáo*, which is also a weapon. Spears were pretty common. They were iron-headed and of the elementary form common all over the world, the other or butt-end often having an iron spike to help in climbing; the young men also seemed fairly expert with the crossbow.

Old flint muskets of English make, were not uncommon, the powder being made on the spot by the Nágas, nitre collected from the sites of old



cow-houses ; where the sulphur came from I could not ascertain. The charcoal was made of the wood of citron-trees, *jaura tenga* of the Assamese. This powder is not granulated or very strong, so large charges are necessary.

At 9 A. M. the boiling-point thermometer showed 209°. 60, the temperature of the air being 61° F.

After a fine cool clear moonlight night we were up at dawn, and our party had an early breakfast, the loads were carefully arranged, and I prevailed on five Nágas to carry extra rice for us.

Leaving the village at 11 A. M., we at once passed through the last year's *jhúm* towards the south-east, and down a long spur, towards a tract of low wooded hills, on one of which we passed the last Nága village in this direction, a small one of some five or six houses. There are no Nágas east of the Dihing and Namrup. Thence through their *jhúm* partly felled, and on down to the bed of a stream, along which we travelled a little way, coming out on the Nambong, a small river that carries the northern-drainage of the Patkai east to fall into the Namrup and Namphúk. There was not much water in it, though here and there we saw pools ; the bed was rock, boulders, gravel, and sand alternately. How they kept to the path it was not easy to see, for we often cut off bends by suddenly parting the jungle and finding a rude track below,—at times even this was not to be seen, as it was over boulders and rock. Still, the faculty of keeping or finding the track is part of the savage nature all over the world, and when studied and understood is not at all wonderful. On opening their eyes anywhere in the jungles, these savages can read the surroundings like a book, it is their book in fact, though sealed up, or the signs invisible, to the civilized intelligence.

Near the mouth of the Núki, which drains a valley between two of the large spurs of Patkai, we camped at a clear spot, where there was also plenty of firewood, and wild plantains, for the guide, Múng, and the Nágas to make a hut of.

Bedded rock, laminated shale, was passed frequently inclined at 60° or 70° dipping south.

At dusk, when cooking, the stones under the fires, or supporting the various pots, frequently exploded, so that the operation became rather exciting, and it was agreed by the Bengalis that the Nambong Deo, or spirit, had objections to it ; however, it was all over ere long, as we were hungry, and, on the moon coming out, we spent a very pleasant evening. Stories and jokes abounded ; now and then a general howl was raised to warn off a tiger that prowled about, though none seemed much afraid of him (his tracks were fresh and plain on patches of sand not far off in the morning). At 9 P. M. the thermometer stood at 60° F.

After breakfast, at 9 A. M., we again started on and soon struck

the Núnki, up and beside which we travelled for some hours, and which in places is anything but easy walking, and, though bare-legged, I found shoes were necessary. Here and there a man had an ugly fall, and it was well the things were well packed, as the loads had rough usage. Gradually it began to rain, which was a damper in every sense, as where we went on the banks leeches abounded, and in the river bed the rocks and boulders and the smaller shingle became very slippery. A small lean-to shelter or old hut marked where the path left the Núnki bed to ascend the spur, and here I made the men halt. The Nágas and Singphús and Múng at once pulled out pipes, so I made my fellows all take a little rum "medicinally." We then started on and found the first 1,000 or 1,500 feet pretty steep, the path being unmistakably visible, both by the track below and the blazes on the tree stems of all ages, from one to ten years; a peculiar feature of the path was that it very seldom varied from a dead level for perhaps two miles or so, and never descended anywhere as much as 30 feet, and was in the main fairly straight. Vegetation began to vary a little, not only trees, but plants and herbs of new kinds were seen, and after about a couple of hours' pretty easy walking the track got steeper and steeper, where the long spur joined the main range. At last the climbing became no joke, to the men who had wetted loads especially, and we had frequently to rest; half an hour or so of this work brought us through some *kako* bamboo to the crest of the ridge, which was quite narrow and densely wooded, the views either way being simply of clouds and mists.

At about fifty yards from the path we camped on a small level, and the rain left off in time for the people to hang out and dry their clothes, blankets, &c. The only thing now needed was what we had too much of already, *i. e.*, water.

Some of the Nágas, however, went away to the bamboos, getting about a gallon from the joints, which sufficed for cooking my dinner and brewing tea for all the party.

I repeatedly told them there was a spring of good water some 400 yards down the path on the east side, in a gully off the same, but both Lah and the Nágas denied it, and said it was useless to go. Subsequently, when at Bor Phakial, I heard that it was true that there was water there. At 9 p. m. water boiled at 205°. 75, air being 57° F. Considering our wetting and fasting, the people were all in very good spirits, and we were anxious to see through the veil of mist to the south,—but no such luck, the night proved foggy too. In the early morning I put my orderly to watch for the view at a part of the crest where there was a patch of grass some two acres in extent. At about 8 a. m. he reported by shouting to me that the clouds were clearing and mountains showing beyond. I at once went up with my prismatic compass, and now and then the driving white

mists or clouds that swept up showed signs of parting. Suddenly below us, and some way out among the clouds, we saw a patch of bright yellow, and another to west, of blue, both for the moment a mystery. It turned out the yellow was dead grass on the plain in sunlight, and the blue was the lake.

In a little time it had so far cleared that I secured bearings of the most conspicuous features, including the peak of Maiúm, to the south-west, which is just 7,000 feet high. While I made a hasty outline sketch, the men struck the camp, and by 9 A. M. we were off down the path that leads to the Nongyang ford and from thence *viâ* the Digum Búm and Loglai Kha, to Namyong villages in Hukong.

After a short time, having first consulted with the Nágas, we left the path and struck south through the jungle, down across deep khuds and over little hills, where the load-carriers had a job to get along, especially those in charge of the canoe, the incline in many places being  $50^{\circ}$  and  $60^{\circ}$  from the horizontal. But Nágas are at home in the jungles, and soon piloted all of us down to the level, which we reached far sooner than we expected, but found it so soft and swampy that it was too dangerous to go on, and we had to return to the flanks of the smaller hills trending towards the lake. After about an hour's walk we came to where the bottom was more firm and sandy, and we crossed to the low wooded hills that run along the northern edge of the lake, passing among which we suddenly emerged on it and had a splendid view. Giving directions to pitch the camp on the little hill-side facing the lake, where there are some large *hingori* trees, we crossed a patch of reeds and stood on the actual margin.

The Nágas, Singphús, and Kamptis at once began some sort of puja, each after his own fashion muttering away, bowing, and touching his forehead with some of the water. I then had the canoe launched, but they all begged me so hard not to take the gun, that I left it, and the wild fowl which I saw out on the lake's opposite shore got off. One and all said we should be sure to have heavy rain if I fired, or a bad storm, as the Deo of the lake would be certain to be offended. So I turned the *Rob Roy's* bow out, and felt the peculiar pleasure of being the first who had paddled on that sheet of water, certainly the first who had done so in a *Rob Roy*. As I went out I saw the margins were low all around, and no forest near, except where I had started from.

The basin of hills, beautifully reflected in the smooth water, swept right round in a green-blue curve, the valley of Nongyang extending south some six or eight miles as a dead flat covered with grass and scrub. The whole bottom of the valley was flat, except where three small tree-covered hills stood like islands in the sea of grass east of the lake. The banks were so low and flat all around that I could see a considerable way inland from

the canoe. Turning westwards, I began the circuit of the lake at some 100 yards from shore, and soon found little bays and headlands, though no sign of out- or inlet. When half round, I looked across and saw the smoke of the camp fires rising blue against the foliage. The water-fowl had apparently crossed over there. Towards the south-east corner I passed up a channel, separating banks barely a foot high, covered by a small sedge, and found I was rounding the island, a very low flat patch of an acre or two in extent, with some very scrubby trees on it.

The water was here so shallow, being often barely two inches deep, that had not the silt been soft I must have stuck. This silt, however, was so soft and light that the paddle, held upright in it, sank in  $2\frac{1}{2}$  to 3 feet from its own weight. Of course I got out of such a dangerous corner as quickly and quietly as possible,—an upset there meant certain death.

I was surprised to see neither stones, sand, nor clay, all was silt and peat, except a little sand where I had started, the outlet was from the south-east corner not far from the island. After about an hour's paddle I returned for breakfast, made all snug, took some observations and memo. sketches, and in the evening went out again, going nearly round, and finding several inlets. The number of wild fowl must be considerable, as the edge of the lake was almost everywhere denuded of sedge or vegetation for a couple of feet in, and had plenty of feathers trampled in. At one place I saw marks made in the bank by the two tusks of a large elephant at water-level, evidently one which had got in and could not easily get out, of which there were other signs beyond. Report says there are large numbers of tusks in the silt everywhere. Other tracks were very common, though no game was visible, but no deer, buffalo, nor indeed any large game tracks except those of elephants.

In the evening we had some strong puffs of wind, and we made all taut for the night, after dinner settling with the men who were to take turns at watching. The Nágas also drew creepers and some dead branches and leaves about us outside, so that anything approaching would at once be heard, then we turned in and slept soundly.

In the morning I started the five Nágas to their homes they were not wanted and wished to be off, and then prepared to sketch the lake and hills and get bearings. This occupied me all day, and we prepared to start next morning for the Nongyang ford, where I desired to search for the inscriptions in Ahom cut some 500 years ago near the ford, where the road crosses. The men, however, whom I had sent ahead to find a path, returned in a great mess, and declared it utterly impossible to cross the valley, as the peat, or *pitoni*, was too soft and deep to bear their weight. This was most unfortunate, and a second attempt, backed by a good prize if successful, failed equally, so there was nothing for it but to return to



Patkai at any rate. I then determined to lash my canoe in the large arms of a big *hingori* tree, and did it so as to prevent its being blown, or shaken down, resting it bottom up on three boughs; being of a very lasting timber, it may remain safely for some years to come, unless elephants can reach it, which I doubt, or the Nágas hear of it from Lah.

We therefore, instead of crossing for the Nongyang ford, started back by the road we had come, and found the return to the pass comparatively easy, it took but 2 hours or  $2\frac{1}{2}$ . There being no water on the crest, I had made the men cook and carry extra rations and water in my kettle. From the crest, it being a fine clear day, I made a sketch and took bearings again, also by boiling-point thermometer at 4 P. M. and 9 P. M., and again at 9 A. M., secured the altitude, which was worked out for me by Mr. H. F. Blanford, to whom all the observations were submitted. Apparently, the crest of the Patkai at the pass is about 3,500 feet above mean sea-level, probably 3,000 above the bed of the Nambong on the Assam side, while the Nongyang lake and valley stand at about 2,200 feet, showing, say, nearly 1,300 feet difference in the levels. The valley of Assam, in fact, being much the lowest, and the Nongyang lake lying about on a level with the Sonkap villages.

From the pass, looking southwards, the valley extends as an irregular triangle for some eight or ten miles north and south, by three or four in width, the lake being near the Patkai end where broadest, and being itself, say, three-fourths by half a mile. Apparently the lake once filled the entire valley, the junction of the level with the hills all around being a well marked line; the surface also mainly consists of grass and scrub jungle, and showing very few trees, is apparently all swamp. The three small conical and wooded hills east of the lake, and at, say, one-fourth to half a mile distant from it, look precisely like islands, the exit from the lake passes close to them.

Later in the day I attempted to get along the crest eastwards, but it was an interminable succession of gullies or saddles and ridges, which would need a whole day to explore, and the dense forest precluded a view in any direction. At a mile east a peak rises which dominates all around and beyond. While we were camped on the summit a party of Singphús crossed from Assam *en route* to Hukong for buffaloes. Starting from the Nambong that morning about 9 A. M., they intended making the Nongyang ford ere dusk, thus crossing from water to water *in one march*. Three or four of them had guns.

Early on the 14th we struck the tents, and started back down the northern slope, seeing the tracks of cattle which had crossed since we did. In about three hours we reached the Núnki, where we had breakfast. I here caught some orange coloured butterflies which seemed new to me, and

measured a *mekai* sapling which was 10 inches diameter at foot and 5 inches diameter at the first branch, 60 feet from the ground.

It was a lovely morning, and, excepting for one or two bad falls, we got down to our old camp easily and quickly, finding three Tkak Nágas there. At dusk we heard a barking-deer not far off, a Nága took his gun and quietly disappeared, a loud report soon after told us he had succeeded, though, being dark, he could not trace it; by dawn, however, he was out and returned with it on his shoulders. I gave him some beads for a leg. These men knew the country pretty well, and had cut rubber on the Upper Loglai. They said large numbers of Nágas from our side go east on the side of Burma, taking food for twenty days, and in parties of thirty and forty or more. It is a large tract of country, and totally uninhabited.

After breakfast, about 9 A. M., we all started on together up the Nam-bong, thence over the undulating forest land and low hills, *jhúms*, &c. One of the Nágas we dropped at the first Tkak Nága village, and soon reached the one we had camped in at night, where we rested an hour and waited for the guide, who had loitered behind. In the *jhúm* close by I observed each person's little store-house of yams, chillies, pumpkins, &c. quite open and exposed, often without doors, yet I was told on all sides that the contents were quite safe. So close to the path were the things, and so very tempting, that I had to collect and warn my people against innocently supposing they might stoop and take what they saw, or there might have been no small row. While resting in the Tkak village, a Nága woman came and presented me with a large basket of *moad*, or rice-beer, which, after tasting, I passed round; it was not so good as that of the Nágas living west near me. Like the Singphús, these people make very neat wicker-work baskets, and line or plaster them with rubber-juice, so as to be not only water but spirit-proof. They also make pretty bamboo mugs, with two handles in loops, some of them absurdly like Dr. Schliemann's early Greek pottery.

When the guide joined, we went on and climbed another 500 or 600 feet to the Upper Sonkap village of some ten or twelve houses. Several women and big girls at once, and without a word from us, brought out and handed over bundles of firewood for nothing. It was done so quietly that I take it to be a regular custom, and one form of welcome. Water, however, was at a premium. Some for present purposes was given us in huge bamboo vessels, but I had to get the Nága boys and girls to bring more at a pice per tube. Even then, there was a short allowance, till the spring filled, or they found a lower one next day. I went to see it, and how they managed to get down and up in the dark surprised me. The want of water has a perceptible effect on the complexions of these people,—the older women seem especially partial to charcoal dust and ashes.

We pitched our tents in a row, on a clean piece of ground offered us among the houses, and after dinner a most motley crowd of people came round our fire, to whom I had more or less to show myself, my clothes, guns, lamps, &c.

The imperceptible effect of custom was curiously seen in many very trivial things here, as elsewhere: for instance, though more or less all prepared for wonderful guns, I found that whenever I opened the D.-B. B.-L. suddenly and the barrels dropped, there was an instantaneous "Awa! he's broken it," the idea of a joint at the breech being the last to occur naturally. At last we got to sleep, after telling them all I would remain over the next day, perhaps two, and there was plenty of time to see everything.

Early next morning I was up, but the range of Patkai all along was invisible. In the dark, however, I must mention the Nágas were up and the women and girls at work and going for water. The muffled tread of many feet and tinkling of the many shin-rings awoke me, and they came back in the dark; meantime, the dull "bump, bump" of the rice husking went on in every house till dawn.

I took a turn to the upper few houses of the village, some 300 yards east, while my man was getting *chota hazri* (little breakfast) for me, and on my return in half an hour, failing to make a sketch east on account of the mist I found a lot of the women and girls squatted about weaving, and "got up regardless," in beads, red hair, red cane, and such like in lieu of costume, the *tout ensemble* when some of them stood up was certainly most remarkable. The long and in some cases profuse straight black hair was secured on the poll of the head by two large (engraved) bone hair-pins, from the projecting ends of which, behind, beads depended, round the head or over the hair some twenty rings of scarlet cane were fastened, and over the forehead a bead coronet. A large brass ring hung from the upper edge of each ear, a bright green bird's skin dangling below to the shoulder; the peculiar nose-studs, or nostril-plugs, completed the head. A profusion of large small bead necklaces hung from the neck, some close, others long and reaching to the waist. Pewter armlets, bright and dull, on the arms, and wristlets of brass of various sorts, from plain wire to a curious piece of casting, were on the arms, now and then red goat's hair being attached in a fringe or bunch. Round the waist was the curious series of cane rings, some fifty or sixty, more or less attached to each other, or long strip coiled round and round, but generally worn as a little crinoline, very much too short, and which was helped out by a strip of native-wove cloth, going all round, but ends not joined,—the whole contrivance barely decent. Red cane bands were often worn round the leg below the knee, as is the custom with the men, and then the remarkable pewter shin-rings, four or five on each leg

placed on edge in front and tied round the leg in some way that prevented them all from slipping down. In walking or running these made a pretty loud tinkling as they touched each other.

To-day the belles of the village came out strong, they seemed for once to have washed themselves and donned all the finery available. As I went about with an interpreter, looking at the weaving and little sticks used as a loom, and asking all sorts of questions, they seemed as much amused as we were, and when laughing, the whole costume seemed to join in, the nose-studs in particular. I could hardly help every now and then thinking what a sum one would realize as a model at the Academy life-class, especially some of them who were remarkably well made and not bad-looking. The children, as a rule, were not at all prepossessing, and had heads and faces round and uninteresting as a turnip, the nose a little round knob, and little eyeholes as in a mask, utterly destitute of modelling. The men's costume was limited to the cane crinoline and a jacket without arms, occasionally a necklace and topi with hair or feathers; but they do not dress themselves as gaudily as the women, or as the Nága men further to the west.

The looms I saw were simply two little upright sticks of any sort driven into the ground, and one loosely tied across the offside, to which the woof was wound, another similar one being in front and looped to a band, against which the weaver leaned back to pull it tight. A huge flat paper-knife seemed to complete the arrangement, being some four inches wide it, when placed on edge, opened out the strings enough to allow a little ball of thread to pass through; letting the said paper-knife lie flat seemed to open the strands the other way, and the little ball was rolled back again: with this they wove cloths with a simple pattern, which were from a foot to eighteen inches wide. Several were weaving men's cloths of the strong *bonrhea*, 5 feet long by 3 inches wide, and with ornamental ends.

After an early breakfast at 9 o'clock I started with several men for the summit of the hill, and after a steep climb reached it and found it had been *jhúmed* about two years before, so we set to work and in an hour cleared off a good deal, enough to enable me to see round and get bearings. The view was a fine one, bounded on the north by the Mishmi Hills, north-east by Dupha Búm 15,000 feet, well snowed down to 2,000 feet or so from the summit; east the Phúngan Búm, 11,000 feet, was well seen, but had no snow on it, the distance about 53 miles; thence round towards the south I saw the eastern prolongation of Patkai, with the depressions in the range where the old Burmese route crossed, at probably 1,500 or at the least 1,000 feet lower elevation than the present pass of 3,500 feet. Over and beyond this marked depression could be seen a rather high group



of hills,—a feature visible here alone, as elsewhere the range of Patkai hid them from view.

The hills seen beyond were expressively called the “Loglai Patkai” by the Nága headman, who caught me making an outline and taking bearings. They may be the group that lie between the Loglai and Turong rivers. From this point west, the entire line of the Patkai crest was visible, but slightly undulating till near Maium, where there seemed to be several depressions, before the rise to the 6,939 feet of that peak. The seven large spurs, running north and more or less at right angles, were very distinctly seen with their intervening valleys, all, like the main range, densely wooded, the Nambong draining all that was lying in this direction. Some of the more western spurs of Patkai were sufficiently high, and form the sky-line, as Longvoi Pipoi, and Nongya Sapon, projecting into the Namtsik valley, which lay west, and seemed filled with low rolling hills, one behind the other, for a long way. Towards the north-west at some miles off, and seen more or less on end, were the ranges dividing the Namtsik from the Tirap basins, some peaks, as ‘Mung phra,’ Kongtam, Rangatu, and Yungbhi, were from 2,500 to 4,000 feet high; further west again about Makum, the hills gradually sank to the level of the plains, in a sea of forest. I observed that the mists in the early part of the morning, or before noon, poured for hours over the lowest part of Patkai above indicated, like milk from a jug, and the phenomenon was repeated daily during our stay, thus marking it unmistakably as the lowest part of the range. East of this part (which seemed the Upper Namrup on our side and Loglai on the other) the range rose again, though not to any great height. Between Patkai and Dupha Búm, beyond Dihing, rose a fine group of hills called by these people Miao Búm, and between Miao and Sonkap, on which we stood, were the small hills called Nan-nan and Tantuk, between which Pemberton says the old route lay and the Namrup flowed, under the name of the Nam-huk or Nambok, and near the village of Namphuk; the alternative route to the Núnki, *viá* Nambongmúk, passed hence also, it was taken by Mr. H. L. Jenkins and my brother some years ago, in 1869.

Towards the afternoon we descended through a clearing, where we saw boys lopping the tree branches that overhung a gully, seemingly a very perilous job and needing some nerve, as the branches fell quite 500 feet. In the evening, an old Nága gave many particulars about the Nonyang lake and valley, and the previous inhabitants, routes to Burma, &c. He gave the length of the valley as one day’s journey, and says he lived with other Nágas once on the hills overlooking the western end of the lake, where there are now no villages. The original inhabitants were, he said, Khamjangs, Aitonias, and Turong Turai, confirming what I had

heard before, and that Nágas inhabited the hill ranges around on the west.

At night we had again a large audience, the men and boys seated round the camp-fire, the women and girls in a circle standing outside. I was asked all sorts of questions about my country and people, the Queen, railways, and steamers, on which Múng had been dilating more or less.

Next morning after *chota hazri*, I started eastwards with my orderly and a couple of Nágas, and got into a *jhúm* on the eastern flank of our hill, from whence I obtained a fine view. At noon we returned and had breakfast and after a rest, I made an outline sketch of the Namtsik valley, and then saw a fine sunset. I also fired a few rounds from my revolver, at a mark, to the delight of the young men, who cut out all the bullets at once from the old stump. Some eight or nine Kessa\* Nágas came to the village from the other side of Patkai, and were pointed out to me. They were, I could see, in various ways somewhat different to the Nágas I was among. Paler in colour, more ugly and sinister in looks, destitute of arms or of ornament, and each wore a large wrap of bonrhea cloth. They also did not tattoo. It was difficult to communicate with them, as only one or two knew a few words of Singphú, and their "Nága" was also very different. The Sonkap headman and others told me they belonged to a tribe who sacrificed human beings, and, as this was news to me, I took some pains to get it confirmed by them. The Nágas replied by explaining that it was done as an old custom, to secure good crops when there was likelihood of failure, and not through wantonness, and that they explained this to the victims, men and women, captured or bought, who were tied to a stake, and killed, as far as I understood, by a cut across the abdomen transversely in some way. It would be very desirable to verify this on the spot, and, if it proved true, endeavour to suppress the practice of such a custom at our doors.

The entire Nága question must be taken up sooner or later and properly settled, or it will be a source of constant trouble to us. We have had very fair success with the Aryan populations of India, but seem to fail signally among non-Aryans. Dr. Hunter's remarks regarding such races are worthy of the most careful attention. They seem to need a combination of the autocratic and patriarchal,—an essentially *Personal* as distinguished from a *Departmental* Government, with its cloud of Babus, a race mortally detested by the Nágas and such like tribes (and with reason). This indispensable element of personal regard our Government seems to systematically ignore, the most potent tie which can connect us with these people is frequently and recklessly severed, with results that

\* Nágas on our side of Patkai are called "Hijud Nágas," or cooked, *i. e.*, civilized, those on the Burmese side are Kessa = Kutchá, or raw.

act disastrously on them. Yet, instead of blaming ourselves, who should know better, we blame the savage, and wonder at the result. In time no doubt these people might be educated and understand us and our institutions, but in the meanwhile they need an intelligent "Chief" over them, rather than a department, and one not changed for every little frivolous pretext, but one who will elect to live and die among them and work for them. From being a set of treacherous and turbulent races, they would become a prolific source from which our Indian army could recruit most valuable and trustworthy material. They are particularly susceptible to personal kindness. It is to be lamented that with the opportunity and power to govern them successfully, there should be deliberate blundering through thoughtlessness. Such men as Captain John Butler are needed, they are few and far between perhaps, but are still to be found with a little trouble.

But to return to these Kutcha Nágas; what they were like in their houses I can't say, but here they wore a sinister truculent look, and there was more difference between them each individually than is usual, though the colour was somewhat uniform; they wore the hair cropped to a horizontal line across the forehead, as is so common among all Nágas. They spoke very little, and in undertones, to each other, their numerals, like those of all the races in Eastern Assam, being on the same basis, with minor variations.

At last we got to sleep, and after a pleasant night were up at dawn. I asked the Nága headman to assist me in procuring some *curios*, personal ornaments, costumes, &c., but it proved to be no easy matter. They might give away, but how could they sell such things? Of course, if *given*, a present was expected in return of, say, at least double value.

At first they quite failed to see why I wanted their costumes and ornaments, unless for some unstated purpose, not a good one,—to perform magic with, perhaps; but gradually I got them to see it as a harmless and laughable peculiarity of mine, and I secured a few of the things, though at exorbitant rates. I got them to see it best and easiest by selecting a girl well got up, and saying I would like to take the "lot" as it stood, bar the girl. Nága-like, they could not resist the temptation to palm off bad things for good. Eventually, we got what we wanted, had breakfast, and, while packing, I showed them all another village through the telescope. Their astonishment was considerable, and, as usual, they thought the village had been brought near by magic.

Ere midday we were off down for the Namtsik, where, meeting a young Nága I secured some samples of his gunpowder in exchange for some bullets, on which he set a high value. The powder was kept in dry bamboo tubes, with a stopper and bit of cloth. I also made him sell me

his jacket and crinoline, or at least three-fourths of it, for he said if he went up home without it, he would be a laughing-stock to all the girls, even though he had his cloth on. Our men soon appeared emerging from the gully, and we shipped everything and got off, the dropping down stream being very pleasant work, and the rapids giving very little trouble. At one place, a long deep pool shaded by overhanging rocks and trees, we found a party of Nágas fishing; their mode was to stake the shallows above and below, and set a series of traps, then to hoe or dig in by stakes or dáos a lot of the bright red fine clay of the bank at that place, which renders the water like pink cream, whereupon the fish in the pool clear out, and in so doing all get caught. They go about, too, on bamboo rafts, and beat the water, to scare the fish; generally each person gets two or three big fish to take home. We shot along pretty quickly, and at last camped on a bed of shingle at the river side, where there was plenty of grass to sleep on, and firewood. Here the *dam-dums*, or *moans*, small flies on silent wing, tormented us. Their bites or stings itch the next day and often cause bad sores.

Next morning we got off early, and shot some rapids in a way that made us all hold our breath. The river had risen somewhat. At one place we came to a huge rock that rose out of the Namtsik, in a deep pool, and it had four large sculptured circles on it in contact, each about a foot in diameter, and containing an eight-petalled rose,—whether a Hindu or Buddhist emblem I cannot say. It is, however, well known to the people about, who declare it a work of the Ahom Rájas many years ago; a part of two circles which is missing is said to have been struck off by lightning.

By 4 p. m. we reached the mouth of the Namtsik and the elephant-stockade, having taken in our remaining stores we pushed on to the Nmbai múk the same evening. I had seen the young Singphú Chief, Kherim Gam, at Namtsik, and he agreed to meet me at Tirap.

Next day we pushed on, passed the Kasam, Mganto and Kherim Pani, into the Dihing river, landed at Gogo and saw some peculiar men, said to be Eastern Singphús, from far up the Dihing; the headman wore a peculiar Chinese-looking cap, jacket, &c., and had a most celestial look about him, he proved kindly and intelligent, and made some shrewd remarks. I also saw here a huge pair of *jangphais* or amber ear-plugs, worn by a very old but remarkably good-looking woman. She would not part with them, though I offered a large sum, their full market value in Assam.

Again we started on and shot some very bad rapids in a way that astonished all on board, in some places we went for fully 300 yards at about ten to twelve miles an hour flying over the boulders only *just* below us, and which seemed to pass like bands of colour,—to have caught in



one would either have split the canoe in two, or sent us and it rolling pell-mell into the deep water below.

Múng, however, seemed to know his work, and only once showed a little weakness, when in shooting down a rapid with a bend in it, and that seemed to end in a huge pile of snags and branches, the leading paddlers jumped overboard, and I had just time to jump forward and give six or seven hard side-strokes with my large-bladed *Rob Roy* paddle, which served to convert a frightful upset into a hard bump. We reached the bend above Tirapmúk about 3 p. m., and most of us got out and walked across the chord of the arc on the sand and grass; five or six of the men, who had gone on foot and carried light loads, here joined us, and we got to Tirap itself about 4 p. m., camping where we did before, on the sands, just above where the rivers joined in the fork, and opposite the end of Kherim Gam's village. They soon had the tents up, firewood in, and were hard at it cooking, when my dák by two men turned up, it had been waiting a week. They also brought a few acceptable stores. Kherim arrived at night, and in the morning came over and we had a long talk together on many matters. He seemed much pleased to see me, and asked after Jenkins Saheb and my brother, with whom he had gone to Hukong in 1868-69. He particularly wanted me to promise to repeat my visit next cold season, and offered to go anywhere with me I liked,—especially Hukong, where he was well known, and has two sisters married to Chiefs. One of these two, over on a visit to Assam came as soon as Kherim was gone and interviewed me. She is married to Dubong Gam, on the Turong, and asked me to visit them, guaranteeing my safety. She was a smart, intelligent little woman, and it was now twenty years since she had been home to Assam. She had her four children with her. Through an interpreter we had a long conversation. She seemed thoroughly to understand the relative positions of the Singphús on our side and hers, and declared the keeping of slaves not so bad after all, and in some cases necessary; at the same time, they all admired the peace and security to life and property seen on our side. As usual, she came with a small present,—fowls, rice, milk, &c.,—and in return I gave her an assortment of strong needles, some threads, tapes, and handkerchiefs for the children. She was soon to return to Hukong, and several of their slaves had come to take her and the children back, a ten days' journey *viâ* the Nága villages and Namyong. As far as I could see, the system of slavery in force in Hukong is not the curse John Bull so often supposes it to be, and seems particularly well adapted to the state of society prevalent there. The slaves, often either Assamese or their mixed descendants, are treated more or less as part of the family, a proof of their happiness being that they do not run away and join our side when possible. Leaving the Tirap, we went down to the small Khampti village of Manmo, where I saw and

sketched a pretty little Buddhist chang and school-house with very fair carving about it. For some reason, the Bapu, like the one at Bor Pakhial, has gone to Burma, and they did not know whether he would return. It seems a great pity if Buddhism is doomed to die out here among these people; theoretically and practically it seems infinitely better than what they are getting in lieu of it, *i. e.*, a mixture of the dregs of several superstitions.

We reached Bor Pakhial about 3 P. M. and camped this time up on the bank near the houses and some bamboos, and soon had a collection to learn of our success. A little before sunset I fixed up the telescope pretty firmly, and showed them several canoes full of people in the distance; there was great excitement over it, for, though very far off, the boys kept calling out the names of the girls and women in the boats, and were able to recognize them. As they came nearer it was a pretty sight, and they made the boats travel, as most of them had oars and were paddling. As the canoes were too small to sit down in, all were standing in a row, five or six in each long and narrow dug-out, then they all ran up to see us. Several old men reiterated the story about the people who had originally inhabited the valley of Nongyang, and who were driven out by the Singphús. They also indicated the difficulties of a route east *viâ* Manchi or Bor Khampti, up the Dihing, of the Sitkha; of this latter route, they could only speak by repute.

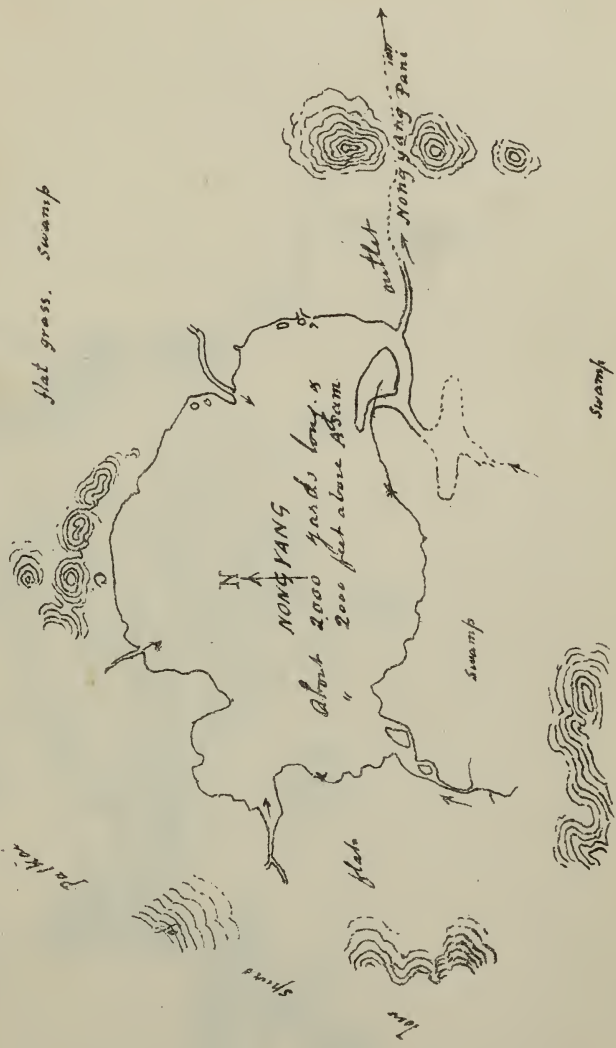
Taking the configuration of the whole country and the ranges around, in regard to the countries beyond, it seems that the only feasible in or outlet is *viâ* the Namrup basin and Nongyang or Loglai; eastwards the Patkai not only rises, but the approaches from either side become more and more difficult and traverse an uninhabited country. Westwards, again, though inhabited by Nágas, the hills are also more difficult, and the actual water-parting at a much higher elevation, the tract of mountainous country on either side becoming much wider.

The discovery of the actual route where it crossed the Patkai in olden times is not now very difficult, its locality is known, and exploration on the spot is all that is necessary.

It is not unlikely that in ascending some one of the several gaps in the lower part of the range east of the present pass, and not more than two or three miles distant, the path may be found to debouch almost at once on the level, or but little above it, rendering a route anything but difficult to open there.

Certainly, the elevation cannot be over 600 or 800 feet above the tributary of Loglai first met, that river itself probably running at about 1,000 feet below the crest. Nongyang is but 1,200 feet below a much higher portion. There are reasons for presuming that this old route was in use as the "Doi bat" in 592 A. D. by the earliest Shans from Mógong.

In illustration of this paper see Plates VIII to XIII.



Sketch 1879.



South 180°  
↓







S. E. Peal  
July 1879



82°  
↓

83°

90°

96°

100°

106°

120°

130°



Outline of the Hills East from Sonkap Búm, 96° to 100° is the hollow where clouds rest in the mornings, and site of the old passes.

Pass at ≈ 3,400 above Sea.

Crest of Patkai, contracted between 1

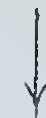


182°

160°

174°

200'



20° & 174°.

High Peak of Maium.

Sonkap Village.

Longvoi Pipoi.





Outline of the Hills seen from Nongyang Lake to the S.-E. & South (from the Western end) .

Outline of the Hills to the South of N

Part of the Island.



780°





For continuation See Plate XII.

Nongyang Valley looking towards Namyung.

Maium Peak 6,939 ft.

Outline of Patkai from Nongyang Lake facing West.

240° ↑

253°

↑

S. P. Pal  
12 Feb 1879

311°

Continued from Plate XI.



Outline of Patkai from Nongyang Lake facing North v. Pass and path, dotted lines.....

Outline of Patkai to the

S. E. Peal  
12 Feb 1879.

311°



26°  
Pass.

40°





*S. B. Piel*  
*12 Feb 1879.*

Outline of Patkai to the left and Digam Búm to right, from West end of Nongyang Lake looking East.

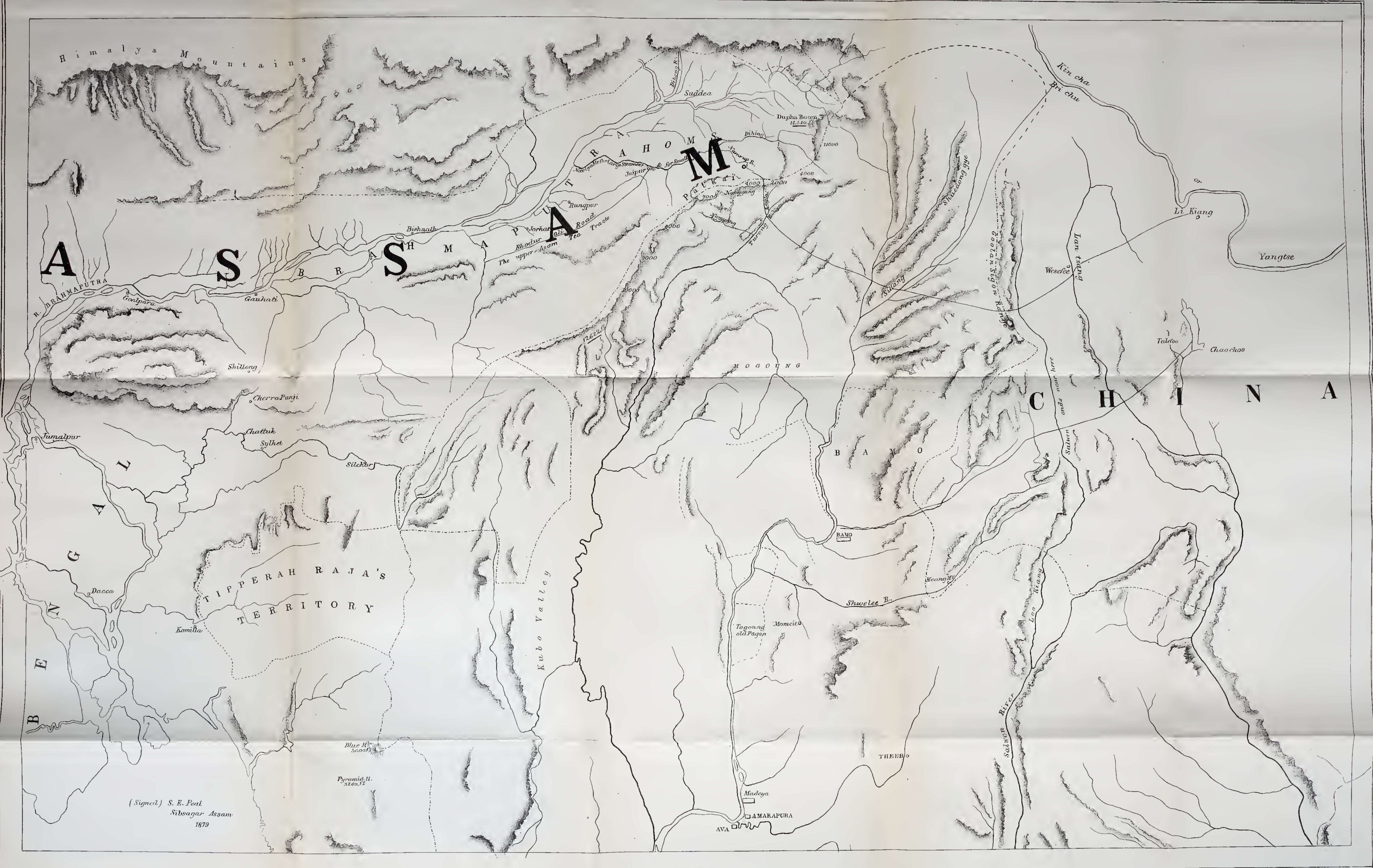
↑  
East

120°

26°  
Pass.

40





(Signed) S. E. Peal  
Sibsagar Assam  
1879

MAP SHEWING PROPOSED ROUTE FROM ASSAM TO THE YANG-TSE.

ENGRAVED AT THE SURVEYOR GENERAL'S OFFICE, CALCUTTA, MARCH 1881.